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INTER-OFFICE CORRESPONDENCE

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To: . Mr. J. E. Wickham ✓ Date: May 8, 1989

From: . Barbara S. Mait

Subject: . Status of Cigarette Firmness Study

The status of the three recommendations outlined to try to explain the 0.2 mm difference in firmness values between PME and CTSD are outlined below:

I. **Test cigarettes to determine the long and short term effect of temperature on firmness.**

Marlboro 85 cigarettes were obtained from the same cigarette maker and are being used for this study. The long term study involves testing the cigarettes at two week intervals to determine if firmness values change over time. This study will be completed by late September. The study to determine the short term effect of temperature on firmness values is complete. For this study, the cigarettes were tested for firmness and oven volatiles after equilibrating at temperatures from 20°C to 24°C. The relative humidity (RH) was held constant at 60%. These temperature values were chosen because they represent temperatures outside both the FTC and ISO tolerances. These data are shown in Graphs 1 and 2. The regression analysis indicates that for every 1°C increase in temperature, the firmness value will increase by approximately 0.07 mm. These data are consistent with preliminary calculations by Chuck Higgins and are also consistent with data generated by Pam Lieberman when she compared firmness values generated under ISO and FTC conditions.

II. **Initiate a collaborative study in Quality Assurance to determine if differences exist between QA and CTSD.**

This study will involve testing filter rods, Monitor #25 cigarettes and Marlboro 85 cigarettes in QA. These same samples will also be tested in CTSD. The instrument used in QA will be certified for load, stability and displacement by C. Higgins. We are arranging a convenient day with QA to run this study.

III. **Bring the PME firmness instrument to CTSD to test along with the CTSD instrument to see if the 0.2 difference still exists.**

To date, this objective has not been acted upon.

BSM:rad

cc: Mr. W. F. Kuhn

Attachments

PM3000857932

Source: https://www.industrydocuments.ucsf.edu/docs/ggpk0001